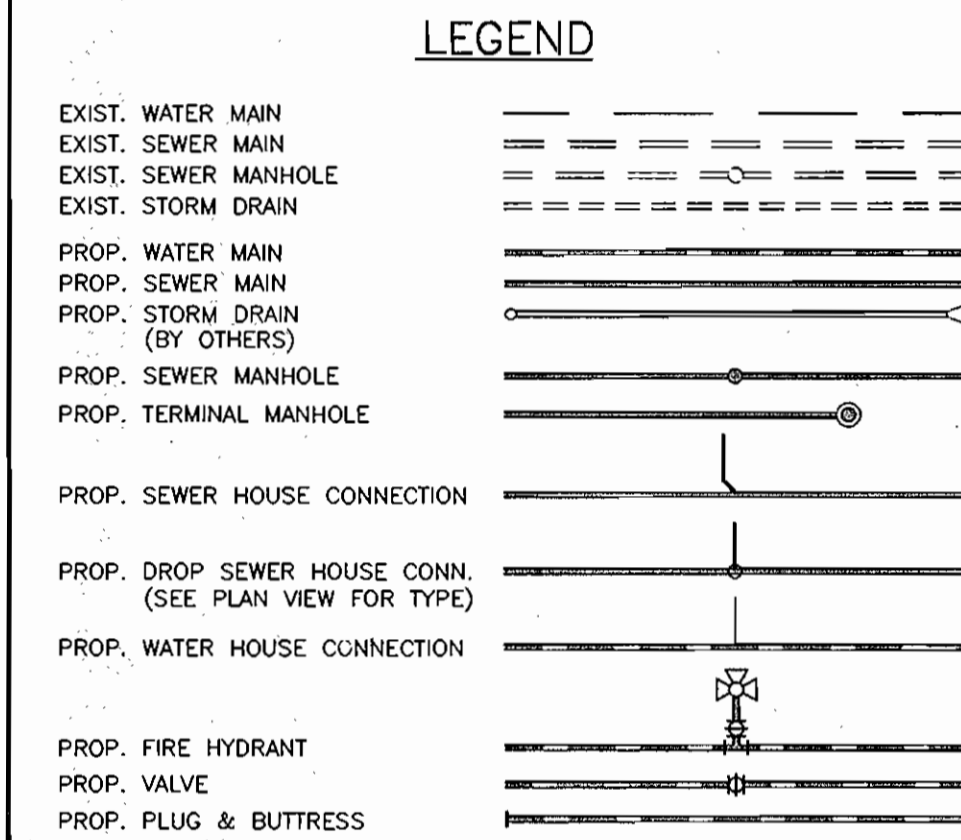


QUANTITIES			
ITEMS	QUANTITIES ESTIMATED	AS-BUILT	
		QUANTITIES	TYPE MANUF./SUPPLIER
8" WATER	1520.1 L.F.	1520 L.F.	D.I.P., CL. 52 U.S. PIPE/B.R.S.
6" WATER	160.0 L.F.	160 L.F.	D.I.P., CL. 52 U.S. PIPE/B.R.S.
4" WATER	42.0 L.F.	42 L.F.	D.I.P., CL. 52 U.S. PIPE/B.R.S.
8" VALVES	9 EA.	9 EA.	MUELLER CO./B.R.S.
6" VALVES	5 EA.	5 EA.	MUELLER CO./B.R.S.
4" VALVES	8 EA.	8 EA.	MUELLER CO./B.R.S.
FIRE HYDRANTS	5 EA.	5 EA.	MUELLER CO./B.R.S.
4" WHC	72.6 L.F.	72 L.F.	U.S. PIPE/B.R.S.
8" x 8" TEE	3 EA.	3 EA.	SIGMA CORP./B.R.S.
8" x 6" TEE	4 EA.	4 EA.	SIGMA CORP./B.R.S.
8" x 4" TEE	6 EA.	6 EA.	SIGMA CORP./B.R.S.
6" x 6" TEE	1 EA.	1 EA.	SIGMA CORP./B.R.S.
4" x 4" TEE	1 EA.	1 EA.	SIGMA CORP./B.R.S.
8" CAP & BUTT.	2 EA.	2 EA.	SIGMA CORP./B.R.S.
6" CAP & BUTT.	1 EA.	1 EA.	SIGMA CORP./B.R.S.
4" CAP & BUTT.	7 EA.	7 EA.	SIGMA CORP./B.R.S.
8" x 6" REDUCER	1 EA.	1 EA.	SIGMA CORP./B.R.S.
8" TS & V	—	1 EA.	JCM MFG./B.R.S.
8" SEWER	14.1 L.F.	14 L.F.	JM MFG./B.R.S.
8" PLUG	1 EA.	—	—
MANHOLES	1 EA.	1 EA.	FRED'K PRECAST CONC.

NAME OF UTILITY CONTRACTOR: STAMBAUGH'S INC.
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE: AUGUST 2008



SHEET INDEX

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN AND DETAILS
3	WATER AND SEWER PROFILES AND DETAILS
4	SEDIMENT & EROSION CONTROL PLAN, NOTES AND DETAILS

HOWARD SOIL CONSERVATION DISTRICT:
 REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT
 AND MEETS TECHNICAL REQUIREMENTS

Jim M... 5/14/05
 NATURAL RESOURCES CONSERVATION SERVICE

THIS PLAN IS APPROVED FOR SOIL EROSION PREVENTION
 CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 5/14/05
 HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE
 IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE
 HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER
 SDP-04-152

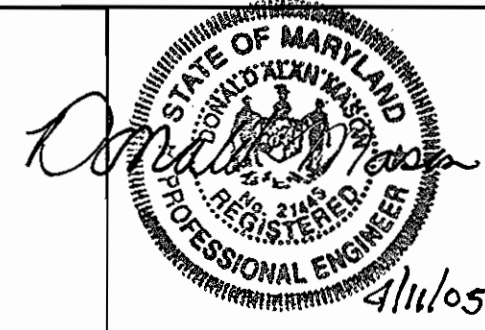
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

R... 5-18-05
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY, MARYLAND

... 5/20/05
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
 ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-8105 FAX: 410-465-8644



DES: BFC/MCR	
DRN: BFC/MCR	
CHK: DAM	
DATE: 4/11/05	
BY NO.	
REVISIONS	
DATE	

TITLE SHEET

600 SCALE MAPS: _____ BLOCKS: _____

ELKRIDGE TOWN CENTER
 PARCEL E-1 AND OPEN SPACE LOT 1
 APARTMENT BUILDINGS 'A' - 'F'; UNITS 1-186
 TAX MAP:38 BLOCK:8
 ELECTION DISTRICT NO. 1
CONTRACT No.14-4222-D

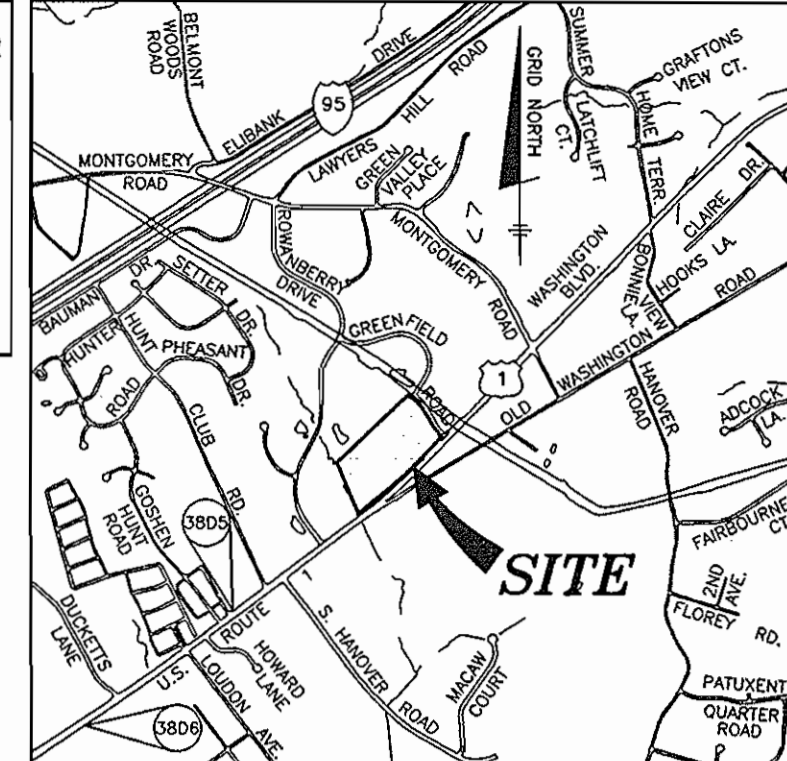
SCALE: AS SHOWN
 SHEET NO. 1 OF 4

PUBLIC WATER AND SEWER CONSTRUCTION PLANS ELKRIDGE TOWN CENTER PARCEL E-1 AND OPEN SPACE LOT 1 APARTMENT BUILDINGS 'A' - 'F'; UNITS 1-186 TAX MAP:38 BLOCK:8 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND **CONTRACT No.14-4222-D**

BENCH MARKS - NAD '83

HO. CO. No. 3805 EL. 193.726
 CONC. MONUMENT; 5.5' NORTHWEST
 OF CONC. CURB OF SOUTHBOND LANE
 OF U.S. ROUTE 1; 56.5' FROM EX. FH
 N 558,378.575 E 1,386,524.158

HO. CO. No. 3806 EL. 175.228
 CONC. MONUMENT; 4.6' NORTHWEST
 OF FENCE ALONG NORTHBOND LANE
 OF U.S. ROUTE 1; 44.0' FROM EX. LP
 N 557,155.459 E 1,384,992.262



VICINITY MAP
 SCALE: 1" = 200'

GENERAL NOTES

- PART 1 - GENERAL**
- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
 - TOPOGRAPHIC SURVEYS WERE PERFORMED ON OR ABOUT OCTOBER, 2003 AND DECEMBER, 2004 BY BENCHMARK ENGINEERING, INC., AND ARE SHOWN AT 2' INTERVALS.
 - ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES, NAD 83/91. ALL VERTICAL CONTROLS ARE BASED ON NAVD 88.
 - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON PLANS.
 - CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES INCURRED FROM MONIES OWED THE CONTRACTOR, THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
 - FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
 - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL [] AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 AT&T 1-800-252-1133
 BGE (CONSTRUCTION SERVICES) 410-850-4620
 BGE (EMERGENCY) 410-685-1400
 HO. CO. DPW - BUREAU OF UTILITIES 410-313-4900
 COLONIAL PIPELINE CO. 410-795-1390
 MISS UTILITY 1-800-267-7777
 STATE HIGHWAY ADMINISTRATION 410-531-5533
 VERIZON 1-800-743-0033/410-224-9210
 - TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
 - CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
 - THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(c) OF THE HOWARD COUNTY CODE.

- PART 2 - WATER**
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
 - TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
 - FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.

- PART 3 - SEWER**
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
 - ALL MANHOLES SHALL BE 4' - 0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
 - FORCE MAINS SHALL BE D.I.P. ONLY.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G-5.52, WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED. SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
 - HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.

NOTE: ALL STORMWATER MANAGEMENT BMP'S SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED AND MAINTAINED

NOTE: ALL STORM DRAINS SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED AND MAINTAINED EXCEPT WHERE NOTED ON THE PLANS

NOTE: ALL SEWER LINES SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED AND MAINTAINED EXCEPT WHERE NOTED ON THE PLANS

NOTE: WATER METERS SHALL HAVE INTERIOR SETTINGS

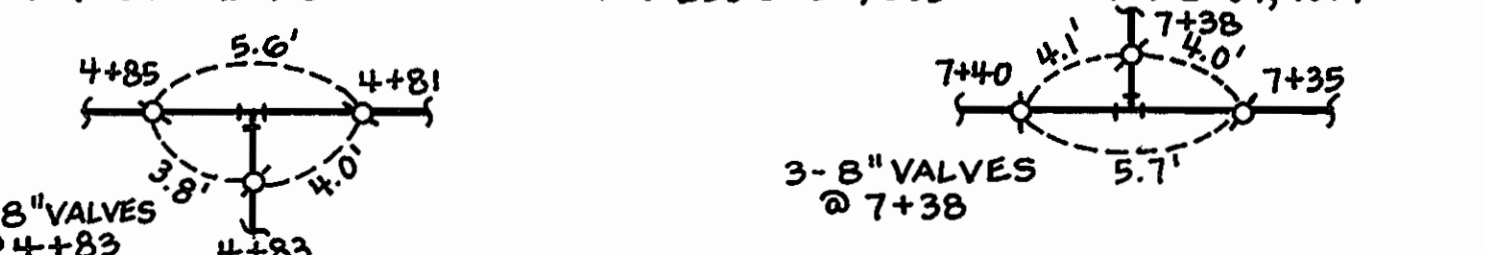
NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

AS BUILT
 DATE: AUGUST 2008

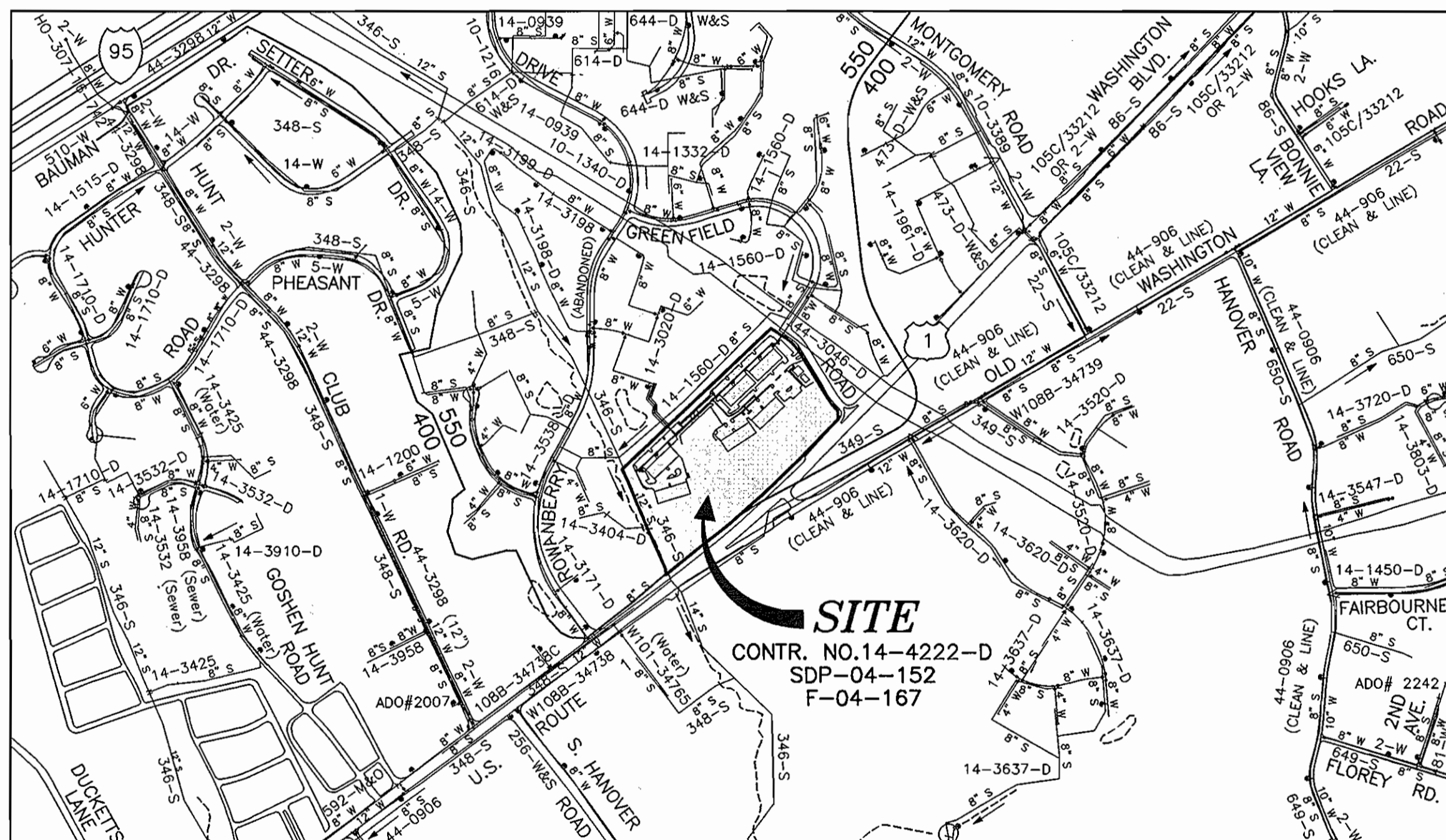
OWNER/DEVELOPER:
 ELKRIDGE TOWN CENTER, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 PHONE: 410-465-4244

WATER LINE AS-BUILTS

FROM	TO	TO
8" MAINLINE VALVE 0+01	4" VALVE TO CLUB HSE., 30.0'	6" FH VALVE, 59.3'
4" VALVE (CLUB HOUSE)	6" FH VALVE 0+80, 34.0'	FIRE HYDRANT, 30.0'
FIRE HYDRANT 0+80	FH VALVE, 12.0'	4" V (BLDG. 'D') 86.6'
4" VALVE BLDG. 'D'	FH 0+80, 86.6'	FHV 0+80, 85.3'
4" VALVE BLDG. 'C'	4" V BLDG. 'D', 180.0'	6" FHV 4+60, 114.8'
6" FHV 4+60	FIRE HYDRANT, 20.0'	8" V 4+81, 22.5'
FIRE HYDRANT 4+60	FH VALVE, 20.0'	8" V 4+81, 30.0'
FH VALVE 0+86	FIRE HYDRANT, 21.5'	8" V 7+35, 48.6'
4" VALVE BLDG. 'E'	FH VALVE 9+83, 110.7'	FH 9+83, 111.5'
4" VALVE 9+95 END	FH VALVE, 10.6'	FH, 14.3'



LOCATION PLAN
 SCALE: 1" = 600'

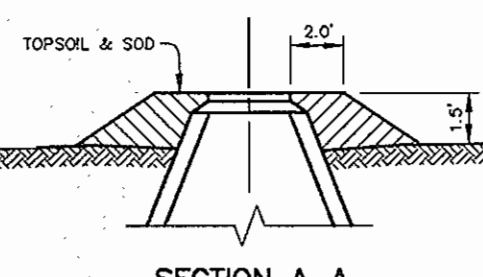
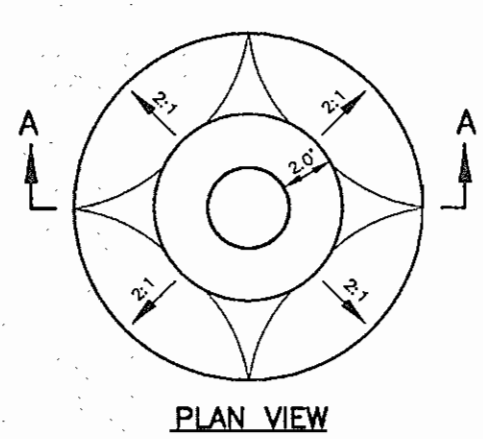


(FOR COUNTY USE ONLY)
WATER AND SEWER COUNTY CODE

WATER CODE:	D-09
SEWER CODE:	2150533
TEST GRADIENT:	700

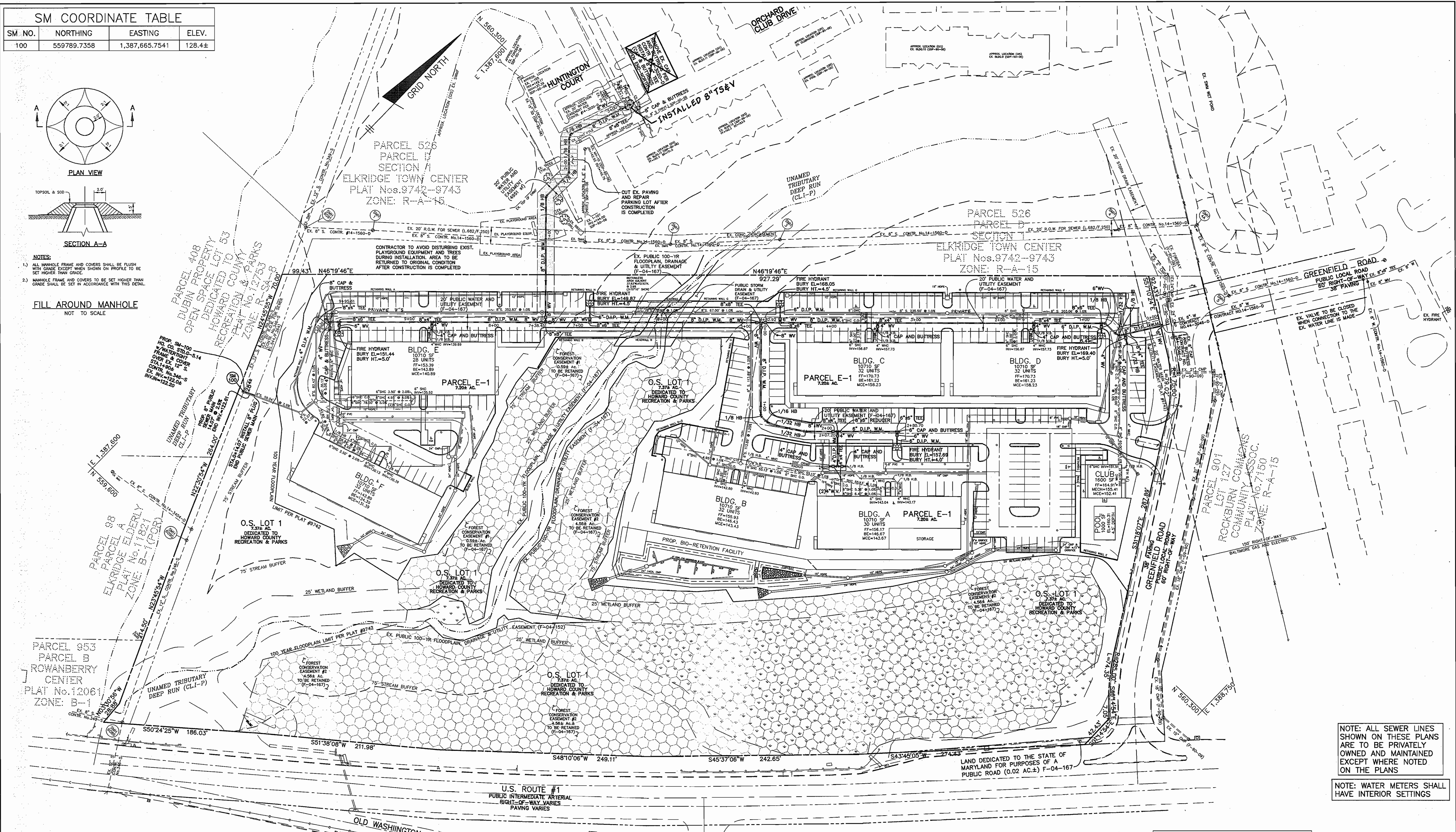
TYPE OF BUILDING:	APT. BLDGS. & POOL/CLB.HSE.
NO. OF APT. UNITS:	186 (1 CLUBHOUSE)
CLUBHOUSE UNITS:	1
NO. OF LOTS/PARCELS:	2
NUMBER OF SHCS:	1
NUMBER OF WHCS:	7
DRAINAGE AREA:	PATAPSCO
TREATMENT PLANT:	PATAPSCO WASTEWATER TREATMENT PLANT

SM NO.	NORTHING	EASTING	ELEV.
100	559789.7358	1,387,665.7541	128.4±



- NOTES:
- ALL MANHOLE FRAME AND COVERS SHALL BE FLUSH WITH GROUND EXCEPT WHEN SHOWN ON PROFILE TO BE SET HIGHER THAN GRADE.
 - MANHOLE FRAME AND COVERS TO BE SET HIGHER THAN GRADE SHALL BE SET IN ACCORDANCE WITH THIS DETAIL.

FILL AROUND MANHOLE
NOT TO SCALE



AS BUILT
DATE: AUGUST 2008

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

NOTE: ALL SEWER LINES SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED AND MAINTAINED EXCEPT WHERE NOTED ON THE PLANS

NOTE: WATER METERS SHALL HAVE INTERIOR SETTINGS

OWNER/DEVELOPER:
ELKRIDGE TOWN CENTER, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

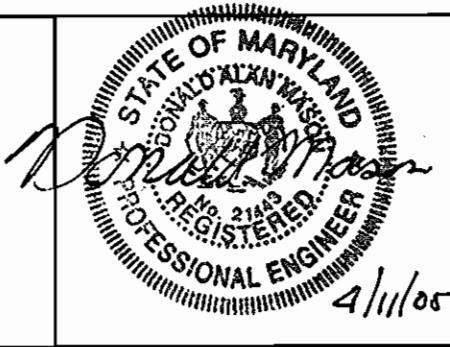
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. J. D. Design 5-18-05
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

W. J. D. Design 5/20/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8400 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644

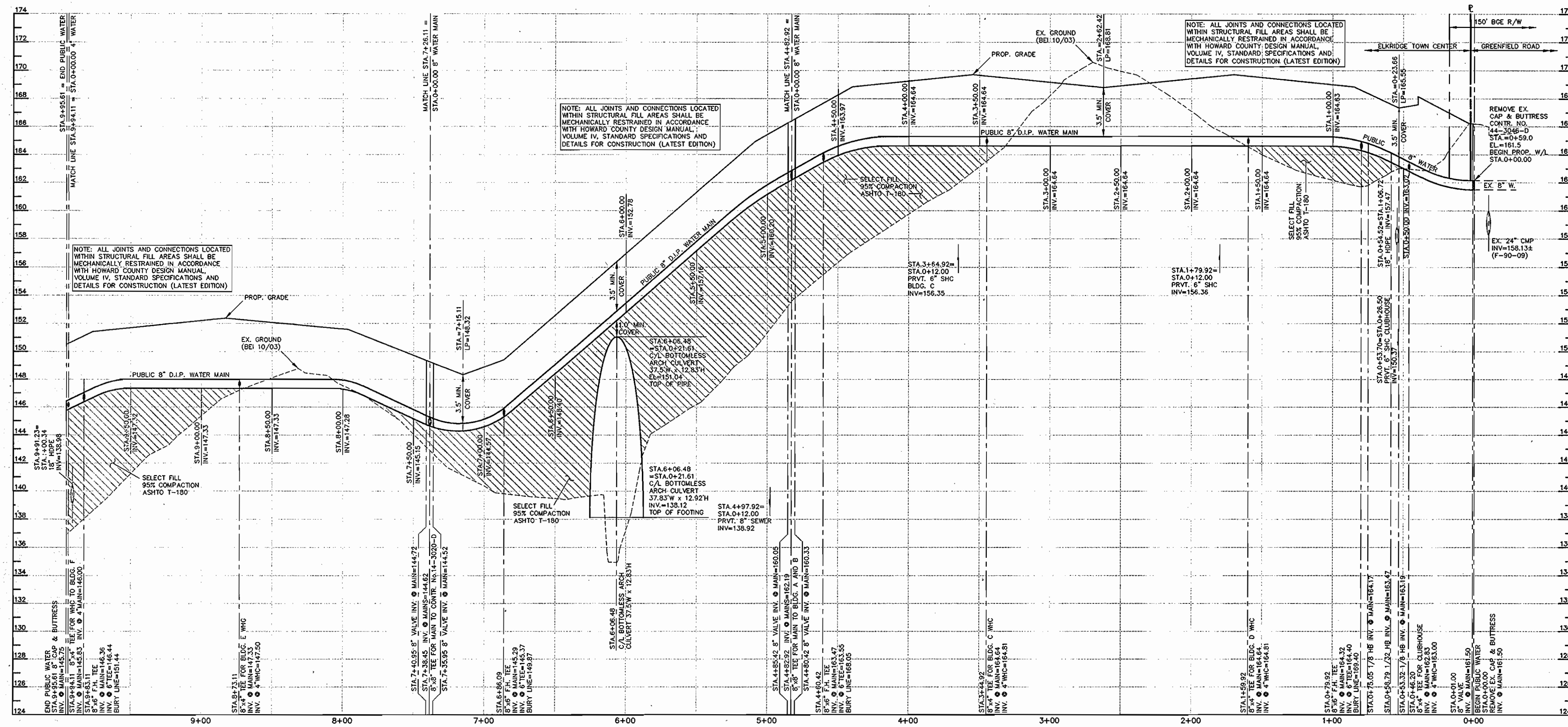


DES:	BFC/MCR				
DRN:	BFC/MCR				
CHK:	DAM				
DATE:	4/11/05				
BY:	NO.	REVISIONS	DATE	600 SCALE MAPS:	BLOCKS:

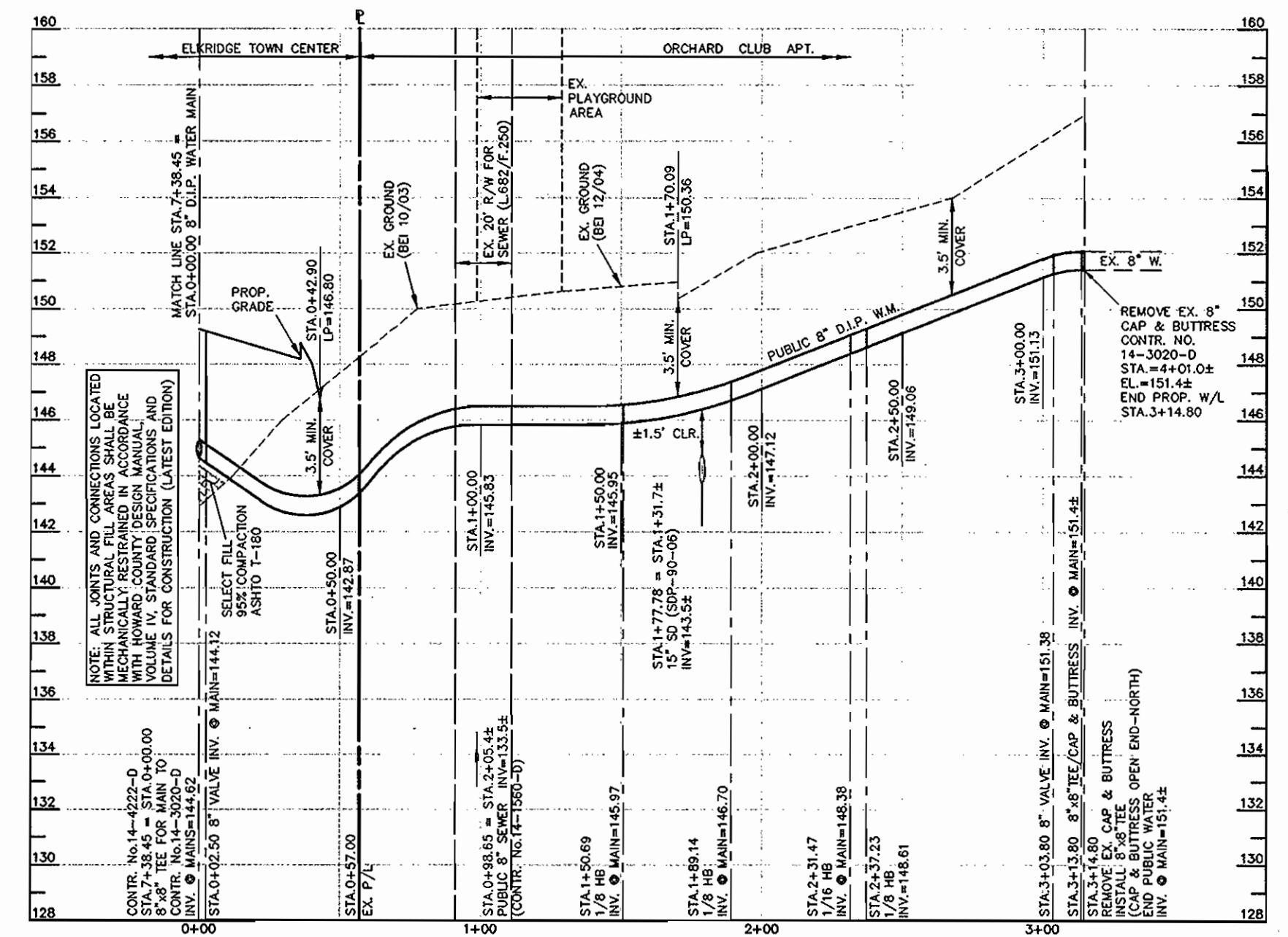
**WATER AND SEWER
PLAN AND DETAILS**

ELKRIDGE TOWN CENTER
PARCEL E-1 AND OPEN SPACE LOT 1
APARTMENT BUILDINGS 'A' - 'F'; UNITS 1-186
TAX MAP: 38 BLOCK: 8
ELECTION DISTRICT NO. 1
CONTRACT NO. 14-4222-D

SCALE:
AS SHOWN
SHEET NO.
2 OF 4



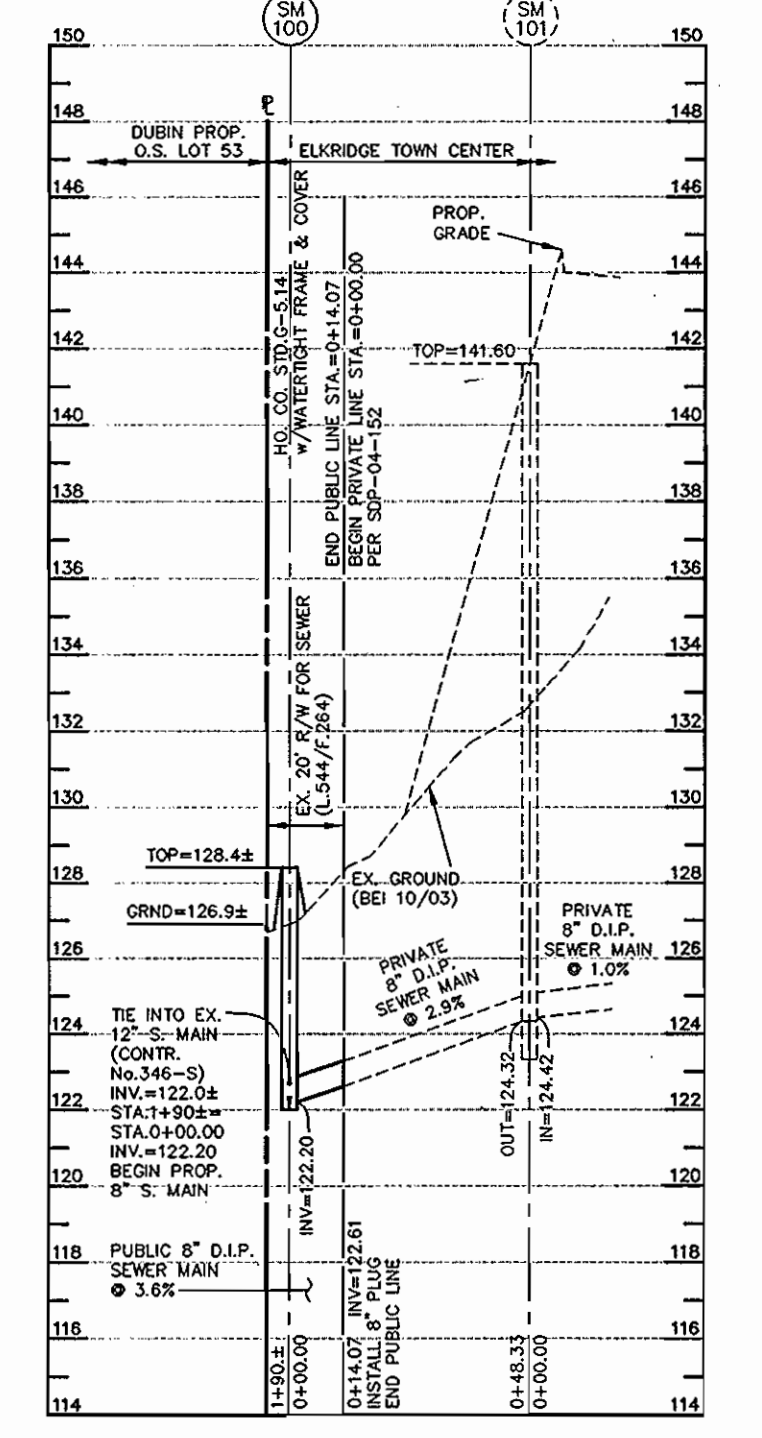
8" PUBLIC WATER MAIN
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



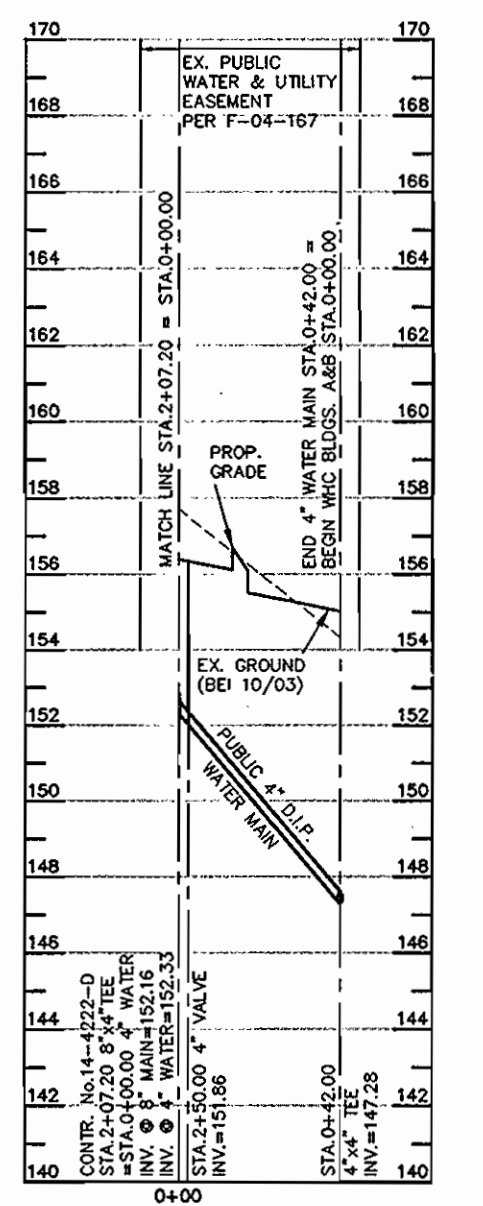
8" PUBLIC WATER - OFFSITE CONNECTION
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'

WATER HOUSE CONNECTION LOCATION AND ELEVATION DATA

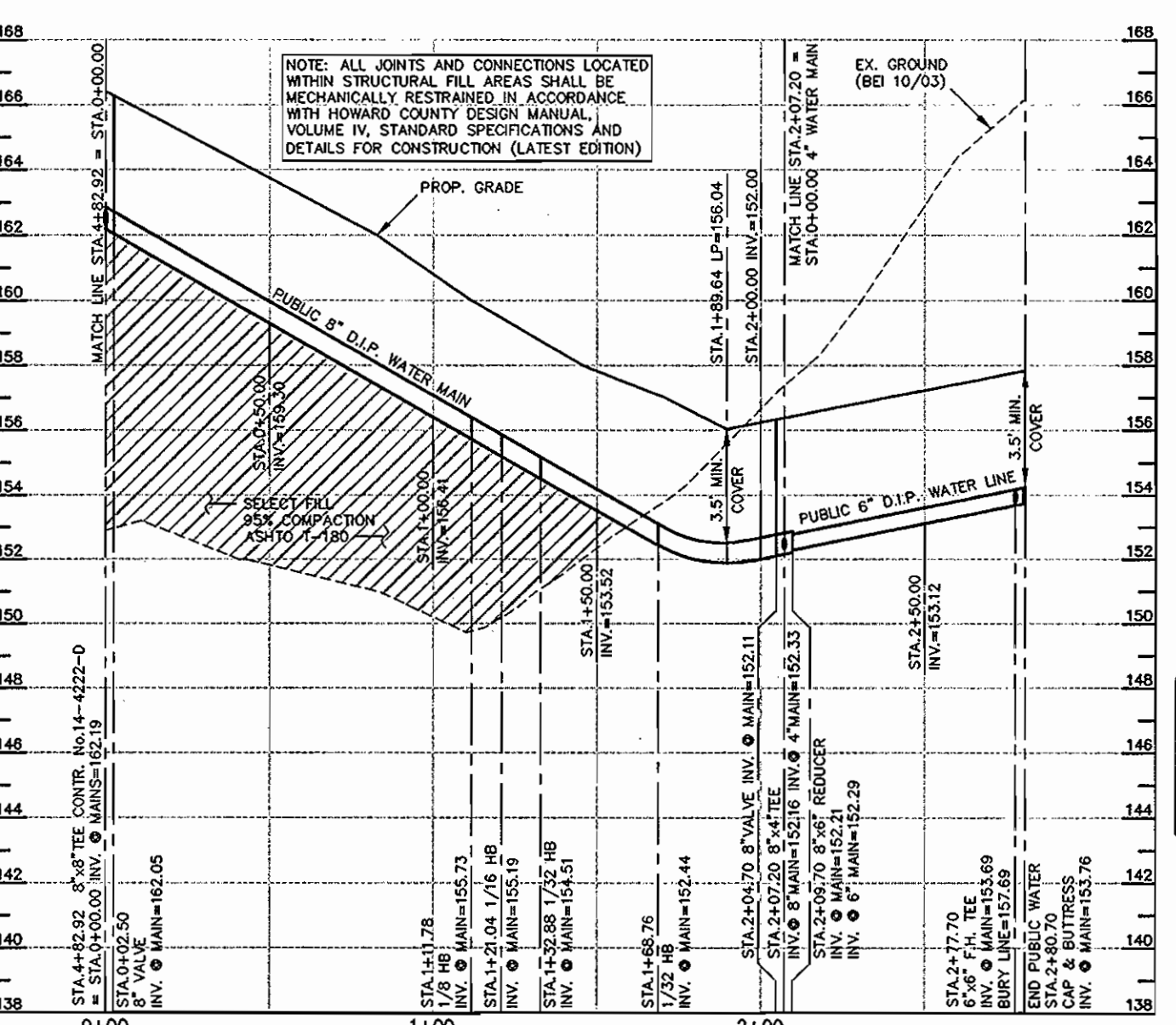
BUILDING NO.	W.M. C/L STA.	INV. @ MAIN	INV. @ CONN.	INV. @ PUE	REMARKS
CLUBHOUSE	0+46.20	161.74	161.91	161.84	PUBLIC SYSTEM
BLDG. "D"	1+59.92	164.64	164.81	164.81	PORTION TO BE CONSTRUCTED UNDER THIS CONTRACT
BLDG. "C"	3+44.92	164.64	164.81	164.81	
BLDG. "E"	8+73.11	147.33	147.50	147.50	
BLDG. "A"	2+10.90 (4"Ø8")	147.28	147.28	147.28	PRIVATE SYSTEM PORTION TO BE CONSTRUCTED UNDER SDP-04-167
BLDG. "B"	2+10.90 (4"Ø8")	147.28	147.28	147.28	
BLDG. "F"	9+88.12 (4"Ø8")	146.47	146.55	146.44	



8" PUBLIC SEWER MAIN
FROM SM-100 TO RIGHT-OF-WAY
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



4" PUBLIC WATER MAIN
FOR BUILDINGS A AND B
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'



8" PUBLIC WATER MAIN FOR BUILDINGS A AND B
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 5'

NOTE: ALL JOINTS AND CONNECTIONS LOCATED WITHIN STRUCTURAL FILL AREAS SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION)

AS BUILT
DATE: AUGUST 2008

NOTE: ALL SEWER LINES SHOWN ON THESE PLANS ARE TO BE PRIVATELY OWNED AND MAINTAINED EXCEPT WHERE NOTED ON THE PLANS

NOTE: WATER METERS SHALL HAVE INTERIOR SETTINGS

WATER LINE DATA COORDINATE CHART

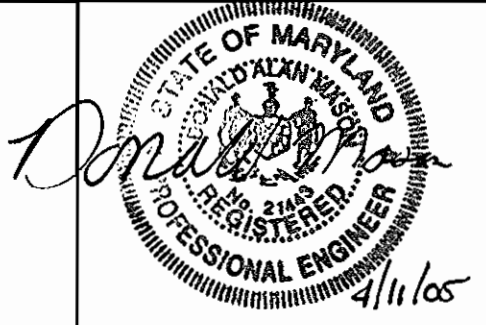
APPURTENANCE	WATERLINE STATION	OFFSET	NORTHING	EASTING
BEGIN 8" D.I.P.	0+00.00	-	N 560600.2381	E 1388397.3955
8" VALVE	0+01.00	-	N 560599.4009	E 1388396.8485
8"x4" TEE (WHC-CLUB)	0+46.20	-	N 560561.5639	E 1388372.1246
1/8 H.B. (8")	0+53.32	-	N 560555.6026	E 1388368.2294
1/32 H.B. (8")	0+58.79	-	N 560554.4807	E 1388362.8769
1/8 H.B. (8")	0+75.50	-	N 560554.8685	E 1388346.1681
8"x6" FH TEE	0+79.92	-	N 560551.8157	E 1388342.9703
FIRE HYDRANT	0+79.92	13.58	N 560541.8998	E 1388352.3544
8"x4" TEE (WHC-D)	1+59.92	-	N 560496.5748	E 1388285.1045
8"x4" TEE (WHC-C)	3+44.92	-	N 560368.8303	E 1388151.2899
8"x6" FH TEE	4+60.42	-	N 560289.0763	E 1388067.7461
FIRE HYDRANT	4+60.42	21.67	N 560304.7507	E 1388052.7827
8" VALVE	4+80.42	-	N 560275.2661	E 1388053.2797
8"x8" TEE (8"-A&B)	4+82.92	-	N 560273.5399	E 1388051.4714
8" VALVE	4+85.42	-	N 560271.8136	E 1388049.6631
C/L CULVERT XING	5+80.85	-	N 560199.0132	E 1387973.4034
8"x6" FH TEE	6+86.09	-	N 560133.2482	E 1387904.5134
FIRE HYDRANT	6+86.09	21.67	N 560148.9226	E 1387889.5501
8" VALVE	7+35.95	-	N 560098.8224	E 1387868.4518
8"x8" TEE (8"-OFF)	7+38.45	-	N 560097.0962	E 1387866.6435
8" VALVE	7+40.95	-	N 560095.3699	E 1387864.8352
8"x4" TEE (WHC-E)	8+73.11	-	N 560004.1114	E 1387769.2404
8"x6" FH TEE	9+83.11	-	N 559928.1589	E 1387698.6787
FIRE HYDRANT	9+83.11	12.08	N 559919.4192	E 1387698.0219
8"x4" TEE (WHC-F)	9+94.11	-	N 559920.5632	E 1387681.7222
8" CAP & BUTTRESS	9+95.61	-	N 559919.5275	E 1387680.6372
8"x8" TEE (8"-A&B)	0+00.00	-	N 560273.5399	E 1388051.4714
8" VALVE (8"-A&B)	0+02.50	-	N 560271.7316	E 1388053.1977
1/8 H.B. (8"-A&B)	1+11.78	-	N 560192.6875	E 1388128.6561
1/16 H.B. (8"-A&B)	1+21.04	-	N 560192.4727	E 1388137.9115
1/32 H.B. (8"-A&B)	1+32.88	-	N 560196.6042	E 1388149.0084
1/32 H.B. (8"-A&B)	1+68.76	-	N 560215.8421	E 1388179.2984
8" VALVE	2+04.70	-	N 560240.6558	E 1388205.2912
8"x4" TEE (4"-A&B)	2+07.20	-	N 560242.3821	E 1388207.0995
8"x6" REDUCER	2+09.70	-	N 560244.1083	E 1388208.9078
6"x6" FH TEE	2+77.70	-	N 560291.0631	E 1388258.0937
6" CAP & BUTTRESS	2+80.70	-	N 560293.1346	E 1388260.2637
8"x4" TEE (4"-A&B)	0+00.00	-	N 560242.3821	E 1388207.0995
4" VALVE (4"-A&B)	0+02.50	-	N 560240.5737	E 1388208.8258
4"x4" TEE (4"-A&B)	0+42.00	-	N 560212.0025	E 1388236.1010
4" CAP&BUTT. (WHC-A)	0+42.00	10.00'	N 560218.9076	E 1388243.3342
4" CAP&BUTT. (WHC-B)	0+42.00	10.00'	N 560205.0974	E 1388228.8677
8"x8" TEE (8"-OFF)	0+00.00	-	N 560097.0962	E 1387866.6435
8" VALVE (8"-OFF)	0+02.50	-	N 560098.9045	E 1387864.9172
1/8 H.B. (8"-OFF)	1+50.69	-	N 560206.0933	E 1387762.5908
1/8 H.B. (8"-OFF)	1+89.14	-	N 560244.5372	E 1387763.4829
1/16 H.B. (8"-OFF)	2+31.47	-	N 560275.1529	E 1387734.2561
1/8 H.B. (8"-OFF)	2+37.23	-	N 560280.4452	E 1387731.9953
8" VALVE (8"-OFF)	3+03.80	-	N 560343.0416	E 1387754.6656
8"x8" TEE (8"-OFF)	3+13.80	-	N 560352.4440	E 1387758.0707

OWNER/DEVELOPER:
ELKRIDGE TOWN CENTER, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8490 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6100 FAX: 410-465-6644



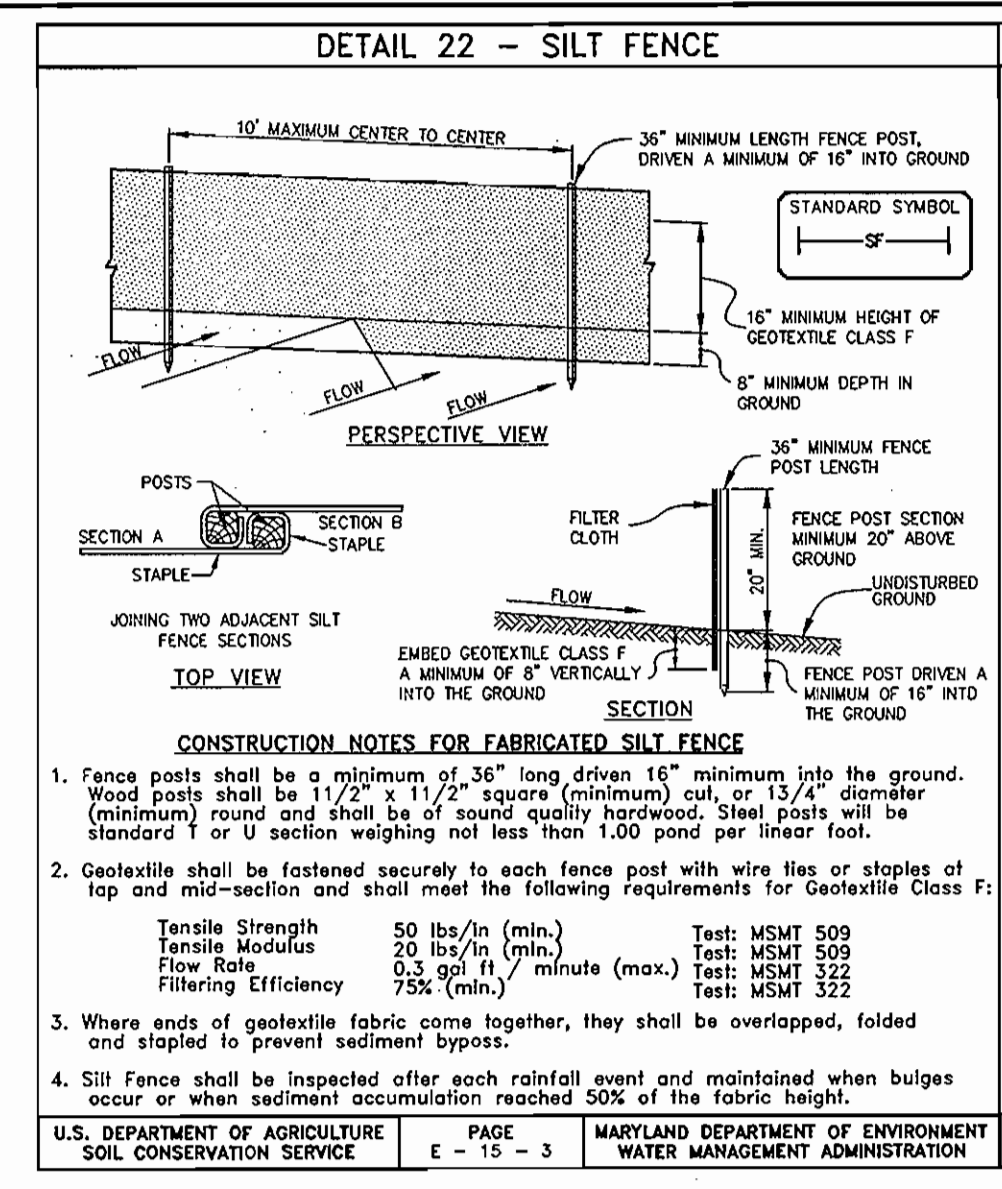
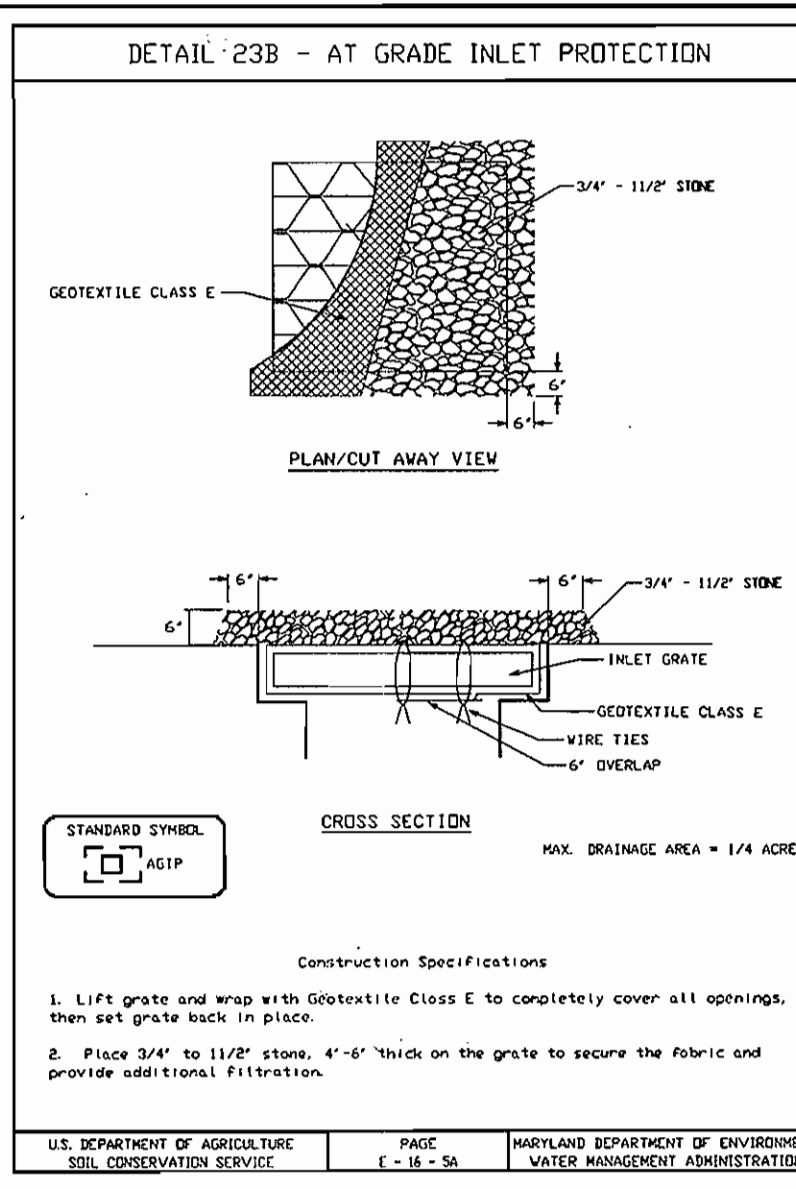
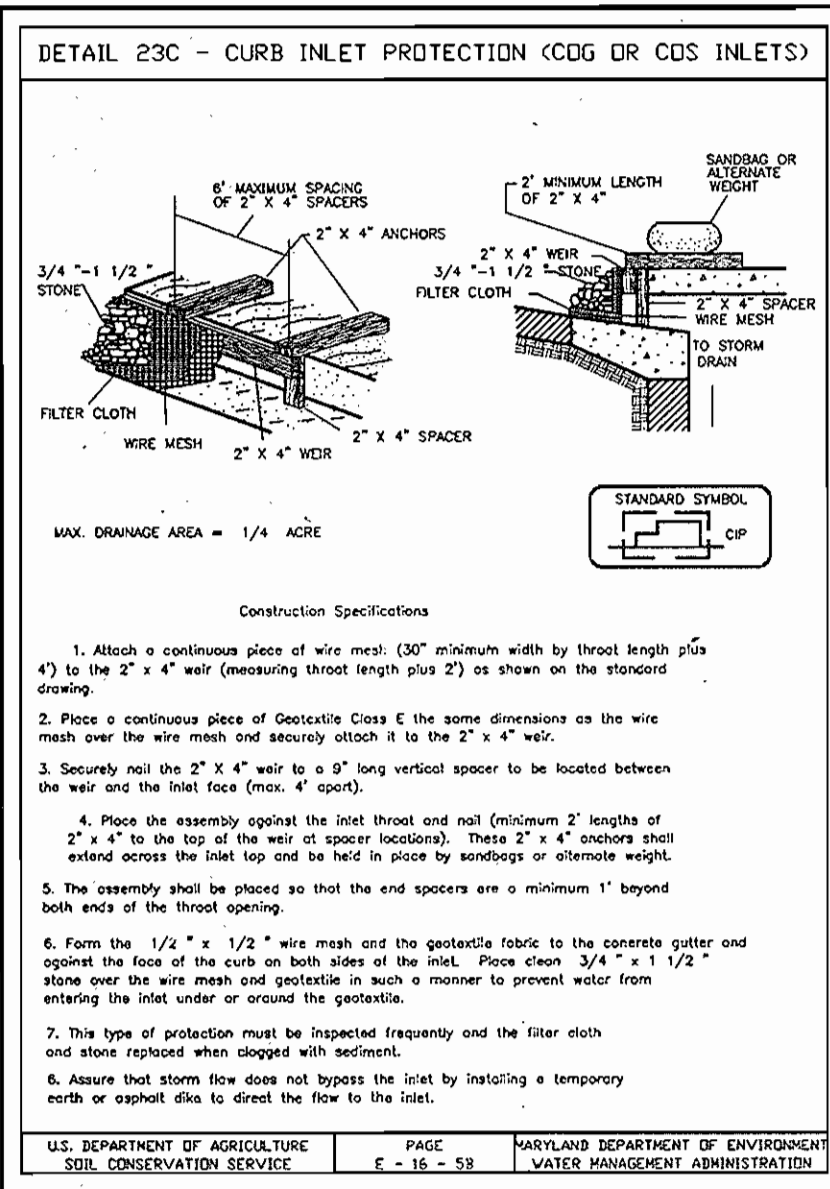
DES:	BFC/MCR			
DRN:	BFC/MCR			
CHK:	DAM			
DATE:	4/11/05			
BY:	NO.			

WATER AND SEWER PROFILES AND DETAILS

600 SCALE MAPS: BLOCKS:

ELKRIDGE TOWN CENTER
PARCEL E-1 AND OPEN SPACE LOT 1
APARTMENT BUILDINGS 'A' - 'F'; UNITS 1-186
TAX MAP:38 BLOCK:8
ELECTION DISTRICT NO. 1
CONTRACT No.14-4222-D

SCALE:
AS SHOWN
SHEET NO.
3 OF 4



SILT FENCE

SILT FENCE DESIGN CRITERIA

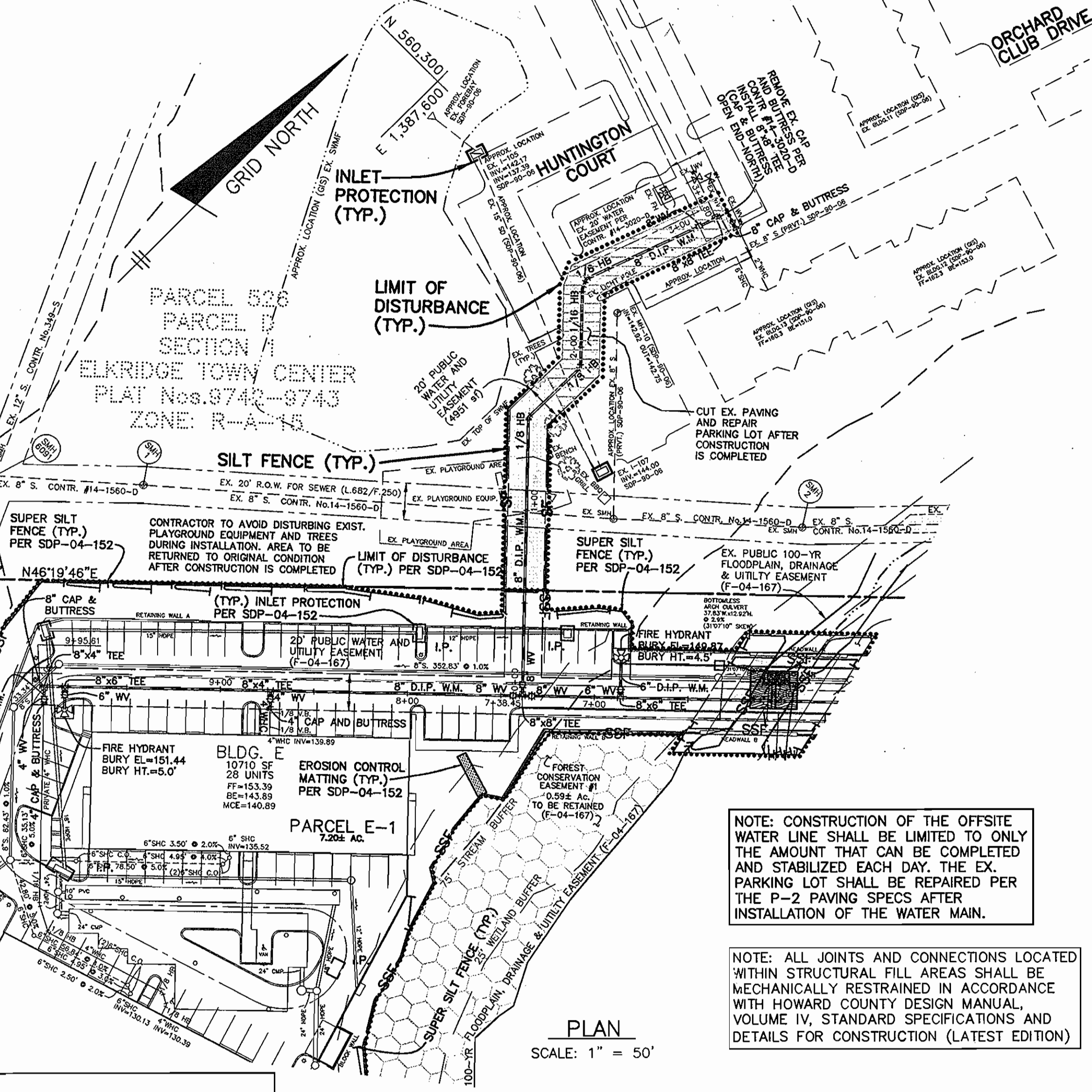
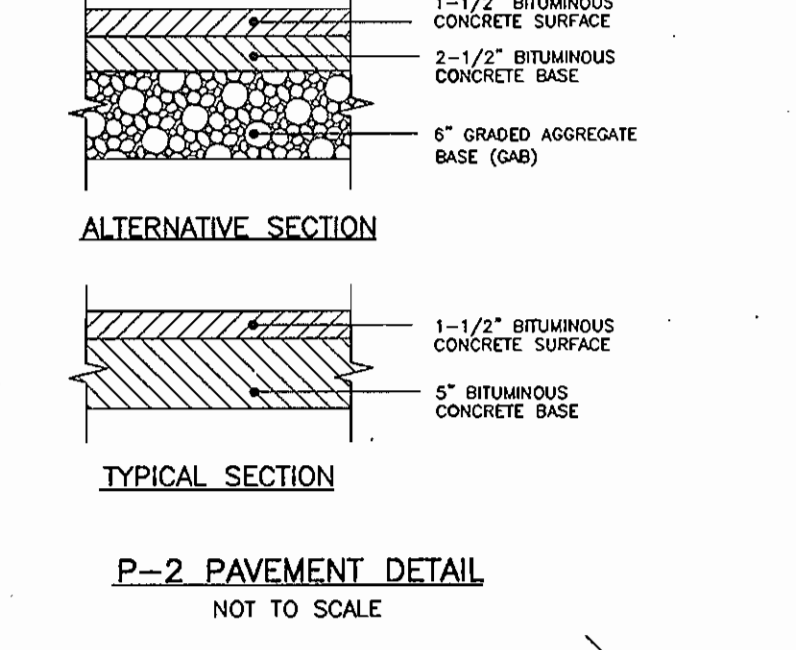
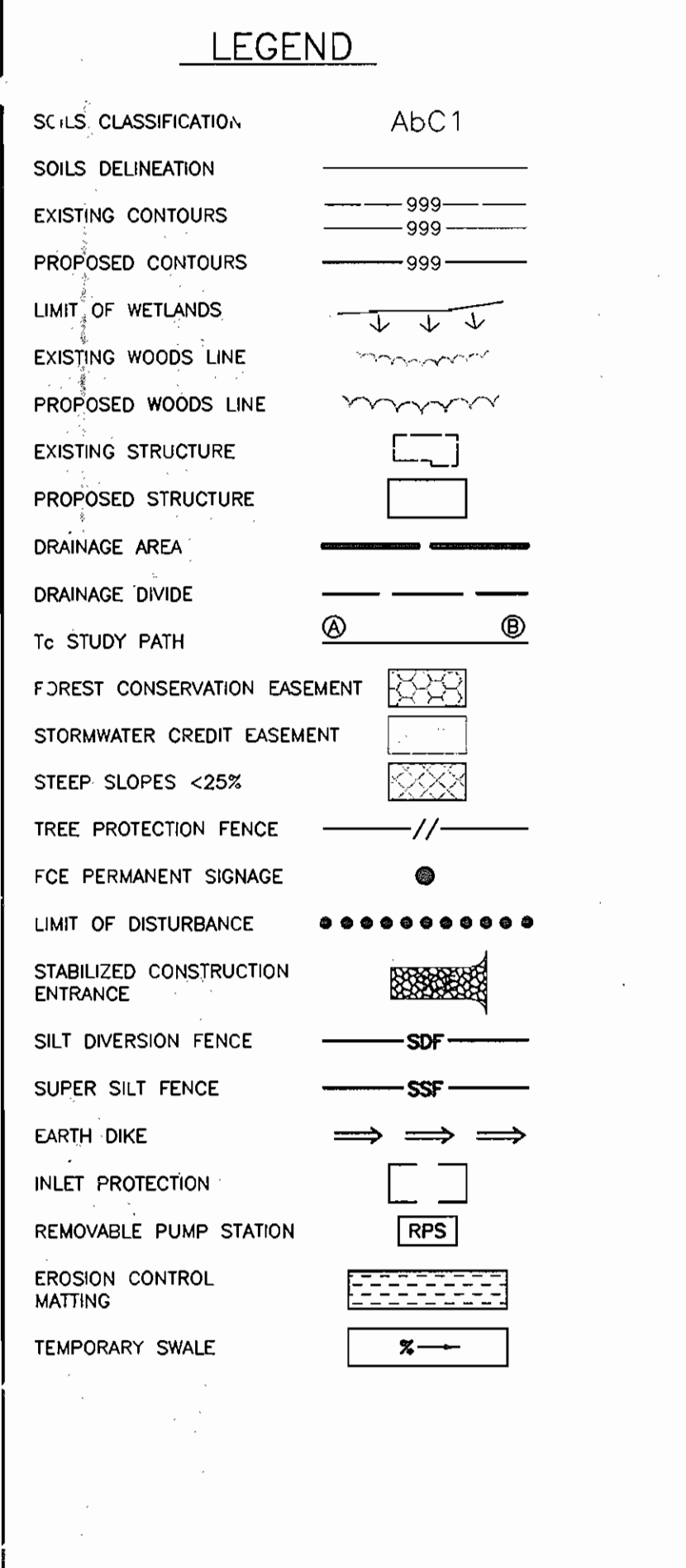
Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	1,000 feet
50:1 to 10:1	125 feet	750 feet
10:1 to 5:1	100 feet	500 feet
5:1 to 3:1	60 feet	250 feet
3:1 to 2:1	40 feet	125 feet
2:1 and steeper	20 feet	

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil class A) maximum slope length and silt fence length will be unlimited. In these areas silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-15-3A MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

- ### SEDIMENT CONTROL NOTES
1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.
 3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOO (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 7. SITE ANALYSIS:
TOTAL AREA OF SITE 14.57 ACRES
TOTAL AREA DISTURBED 0.06 ACRES
AREA TO BE GRADED OR PAVED 0.05 ACRES
TOTAL CUT 0 CU. YDS.
TOTAL FILL/AUL 0 CU. YDS.
OFFSITE FILL/AUL
 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY AN OFF-SITE BORROW OR FILL AREA WITH AN APPROVED SEDIMENT & EROSION CONTROL PLAN AND PERMIT.

- ### 21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL
- Definition**
Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Purpose**
To provide a suitable medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
- Conditions Where Practice Applies**
- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible. II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.
- Construction and Material Specifications**
- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
 - Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, or silt loam in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
 - Topsoil shall be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
 - For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
 - Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation. G-21-2
 - Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted sludge material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribed amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.
- References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.



HOWARD SOIL CONSERVATION DISTRICT:
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

Jim Meyer 5/14/05
NATIONAL RESOURCES CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts 5/14/05
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER SDP-04-152

BY THE DEVELOPER:
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC 'ON-SITE' INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Ed T. Pritchett 4/11/05
DEVELOPER: ELKRIDGE TOWN CENTER, LLC., MEMBER, DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Donald A. Mason 4/11/05
ENGINEER: DONALD A. MASON, MD P.E. No. 21443 DATE

ALL SEDIMENT & EROSION CONTROL FEATURES SHOWN AS EXISTING ARE PER SEC PLANS APPROVED UNDER SDP-04-152

ALL SEDIMENT & EROSION CONTROL FEATURES ARE TO BE REPAIRED IMMEDIATELY IF DISRUPTED BY UTILITY INSTALLATION

SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THIS PLAN IS SUBJECT TO REVISIONS IN THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR

ALL SEDIMENT CONTROL FEATURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS SHOWN IN THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
BeB2	C	BELTSVILLE SILT LOAM - 1 TO 5 PERCENT SLOPES - MODERATELY ERODED
Em	D	ELKTON SILT LOAM
IuB	C	IUKA LOAM, LOCAL ALLUVIUM - 1 TO 5 PERCENT SLOPES
SdC	C	SANDY AND CLAYEY LAND - MODERATELY SLOPING

USDA/SCS HOWARD COUNTY SOILS MAP No. 26

AS BUILT
DATE: AUGUST 2008

OWNER/DEVELOPER:
ELKRIDGE TOWN CENTER, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

R. D. ... 5-18-05
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

... 5/23/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6100 FAX: 410-465-6844

... 4/11/05
PROFESSIONAL ENGINEER DATE

DES: BFC/MCR
DRN: BFC/MCR
CHK: DAM
DATE: 4/11/05

BY NO. REVISIONS DATE

SEDIMENT AND EROSION CONTROL PLAN, NOTES & DETAILS

600 SCALE MAPS: BLOCKS:

ELKRIDGE TOWN CENTER
PARCEL E-1 AND OPEN SPACE LOT 1
APARTMENT BUILDINGS 'A' - 'F'; UNITS 1-186
TAX MAP: 36 BLOCK: 8
ELECTION DISTRICT NO. 1
CONTRACT No. 14-4222-D

SCALE: AS SHOWN
SHEET NO. 4 OF 4

F-04-167 SDP-04-152